

FIG.1

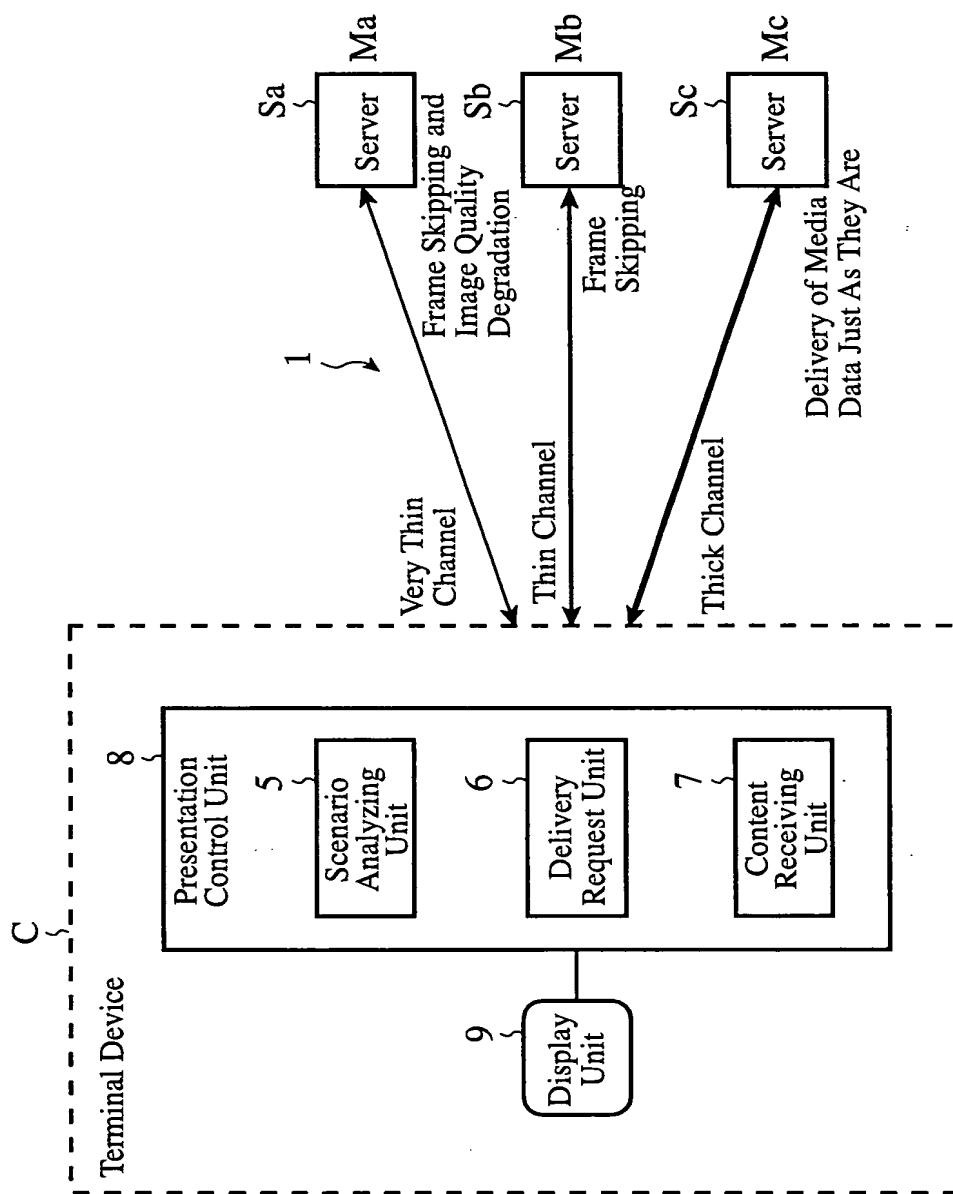


FIG.2

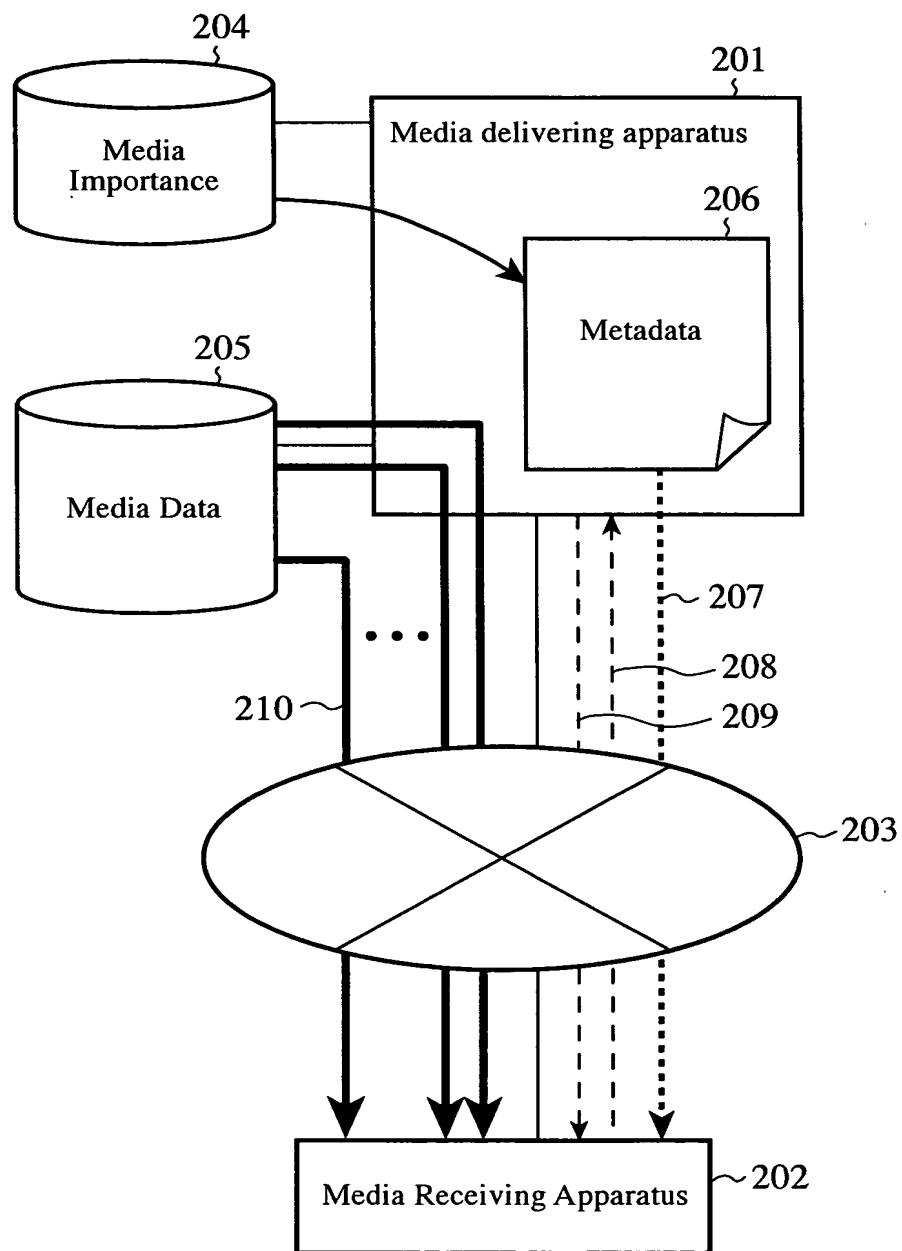


FIG.3

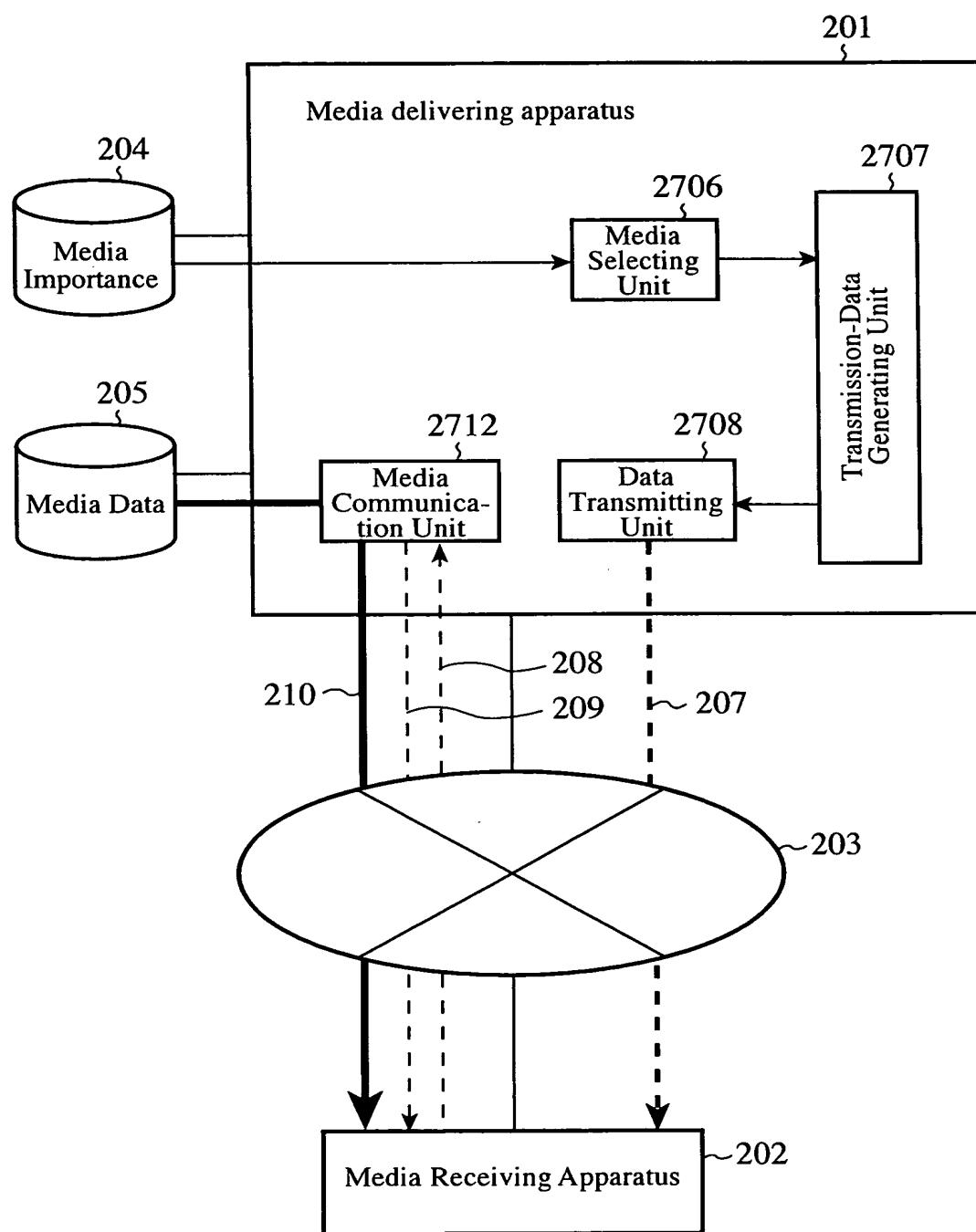


FIG.4

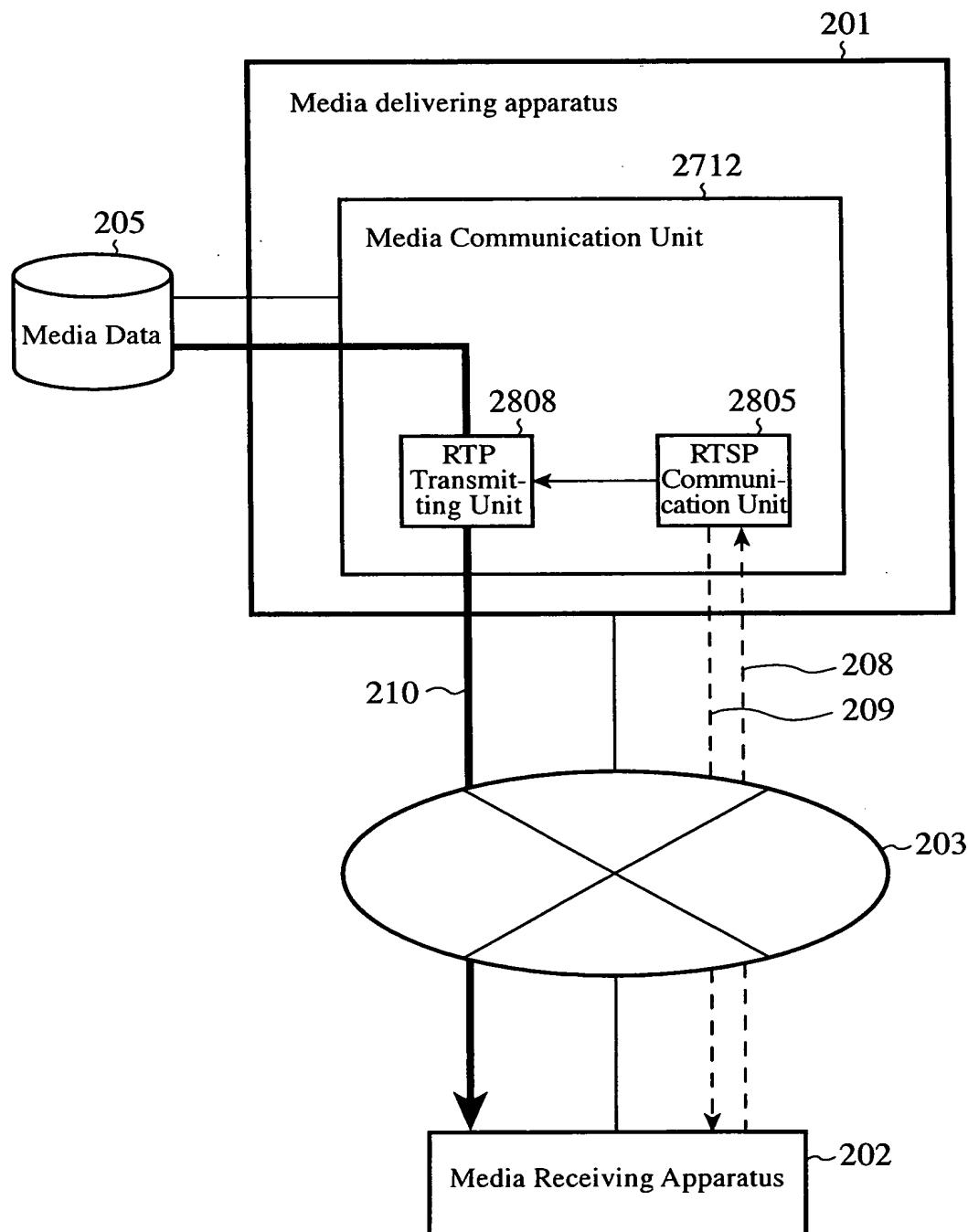
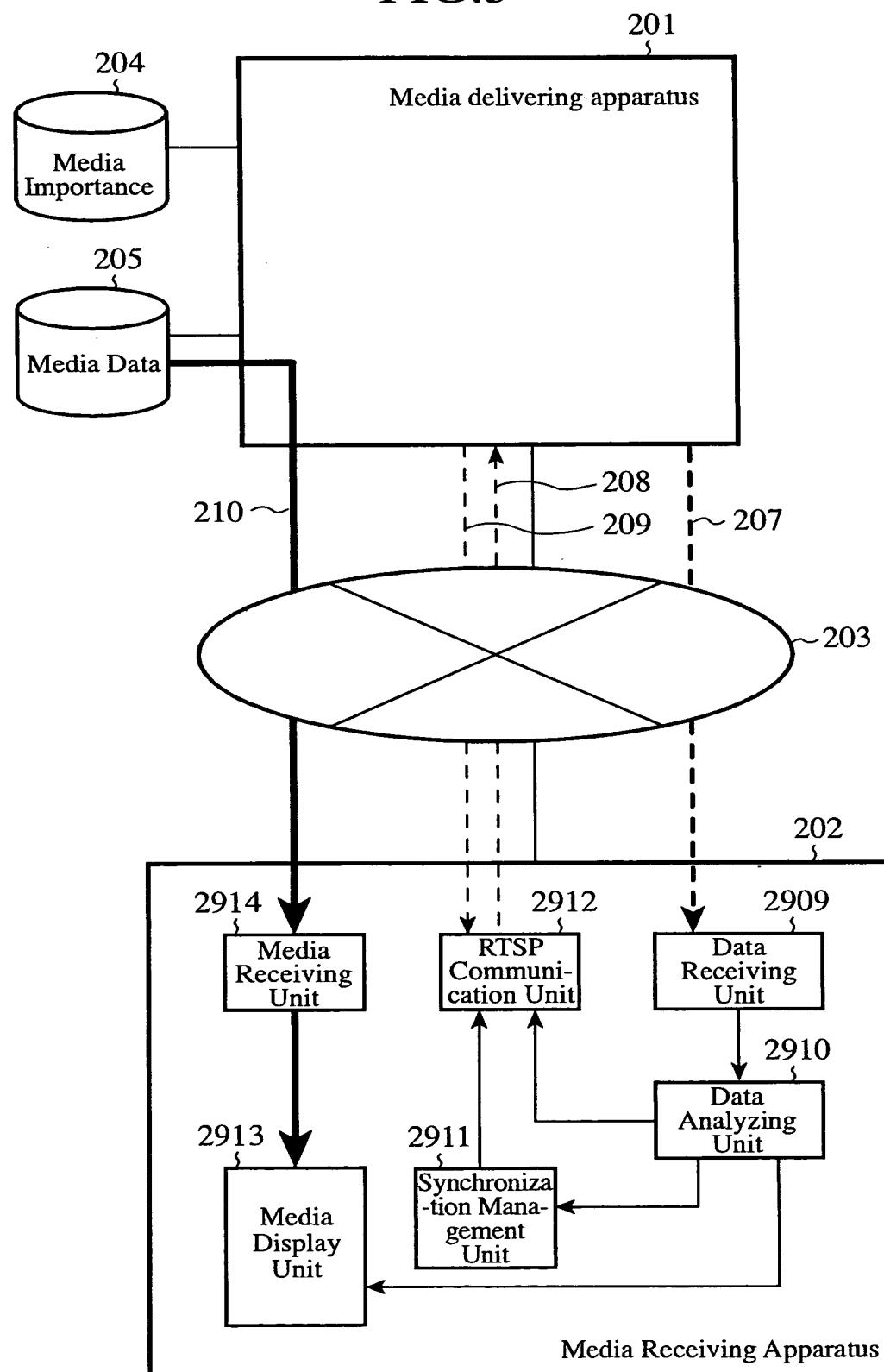


FIG.5



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FIG.6

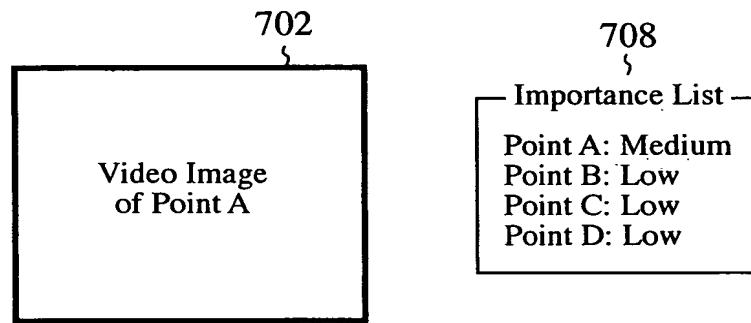
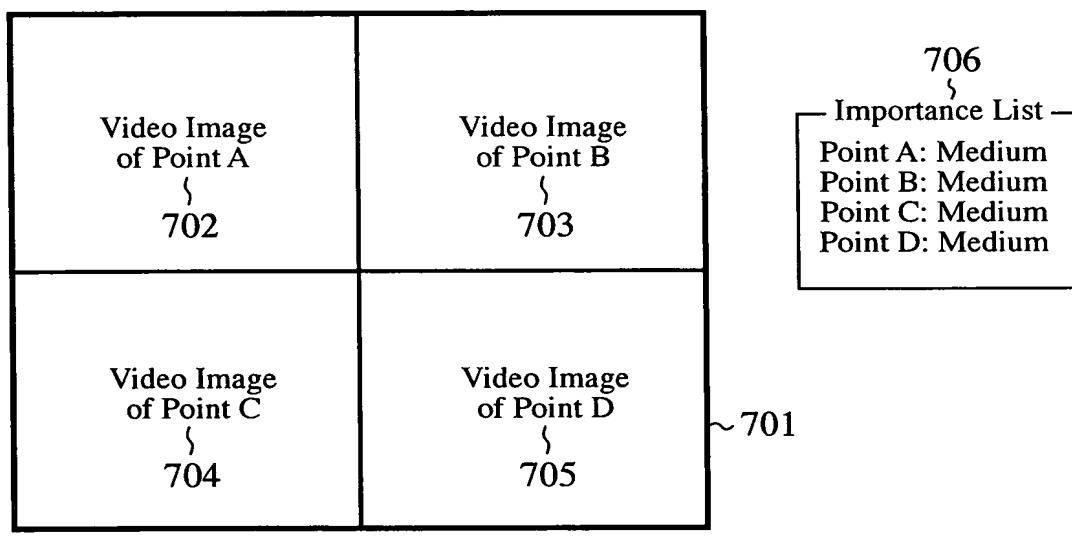


FIG.7

1301

```
1302 <smil>
1303 <head>
1304 <layout>
1305 <root-layout width="640" height="480" />
1306 <region id="topleft" left="0" top="0" width="320" height="240" />
      <region id="topright" left="320" top="0" width="0" height="240" />
      <region id="bottomleft" left="0" top="240" width="240" height="240" />
      <region id="bottomright" left="320" top="240" width="320" height="240" />
</layout>
</head>
1307 <body>
1308 <par>
1309 <video region="topleft" src="rtsp://server/A.mp4" />
      <video region="topright" src="rtsp://server/B.mp4" />
      <video region="bottomleft" src="rtsp://server/C.mp4" />
      <video region="bottomright" src="rtsp://server/D.mp4" />
</par>
</body>
</smil>
```

FIG.8

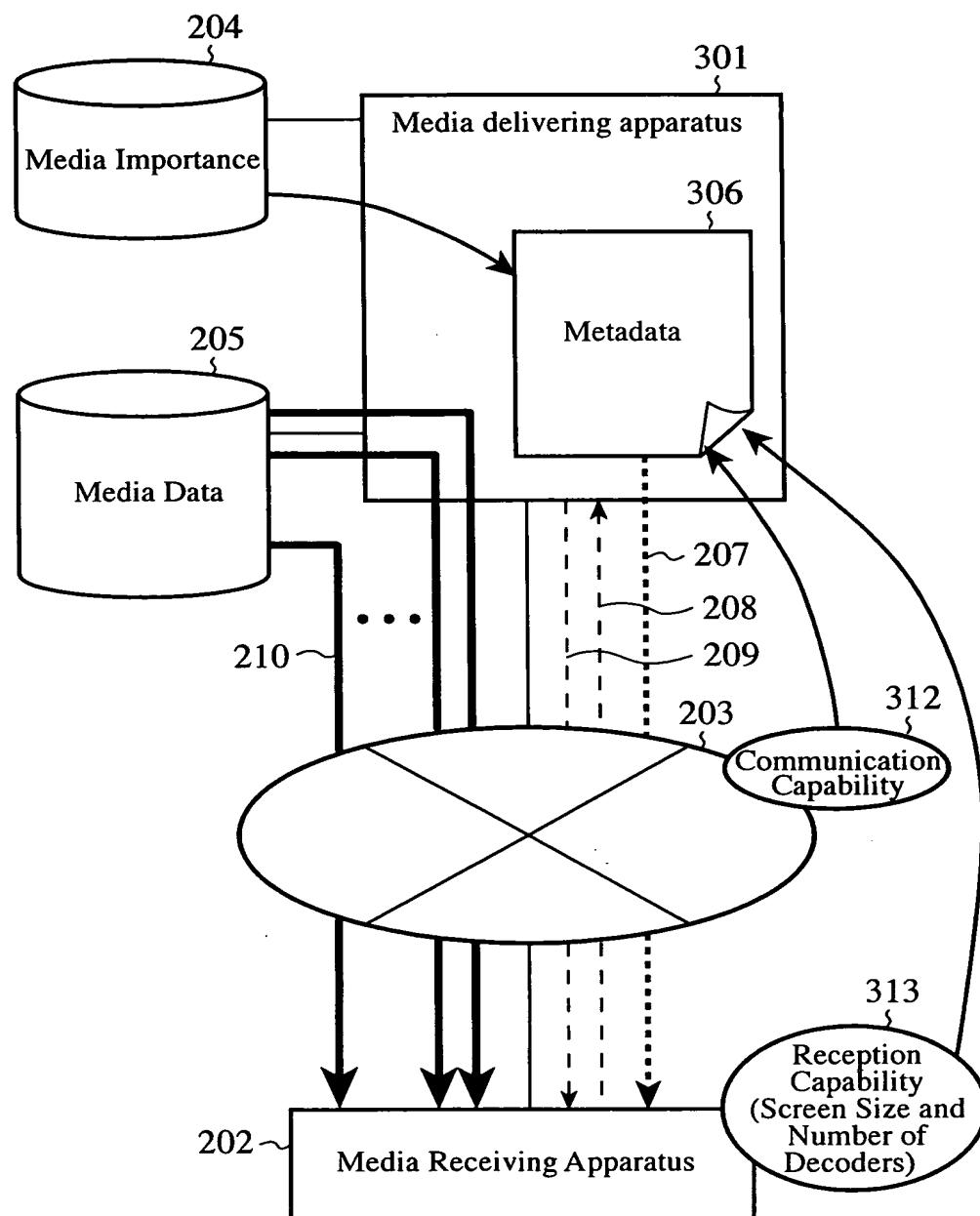
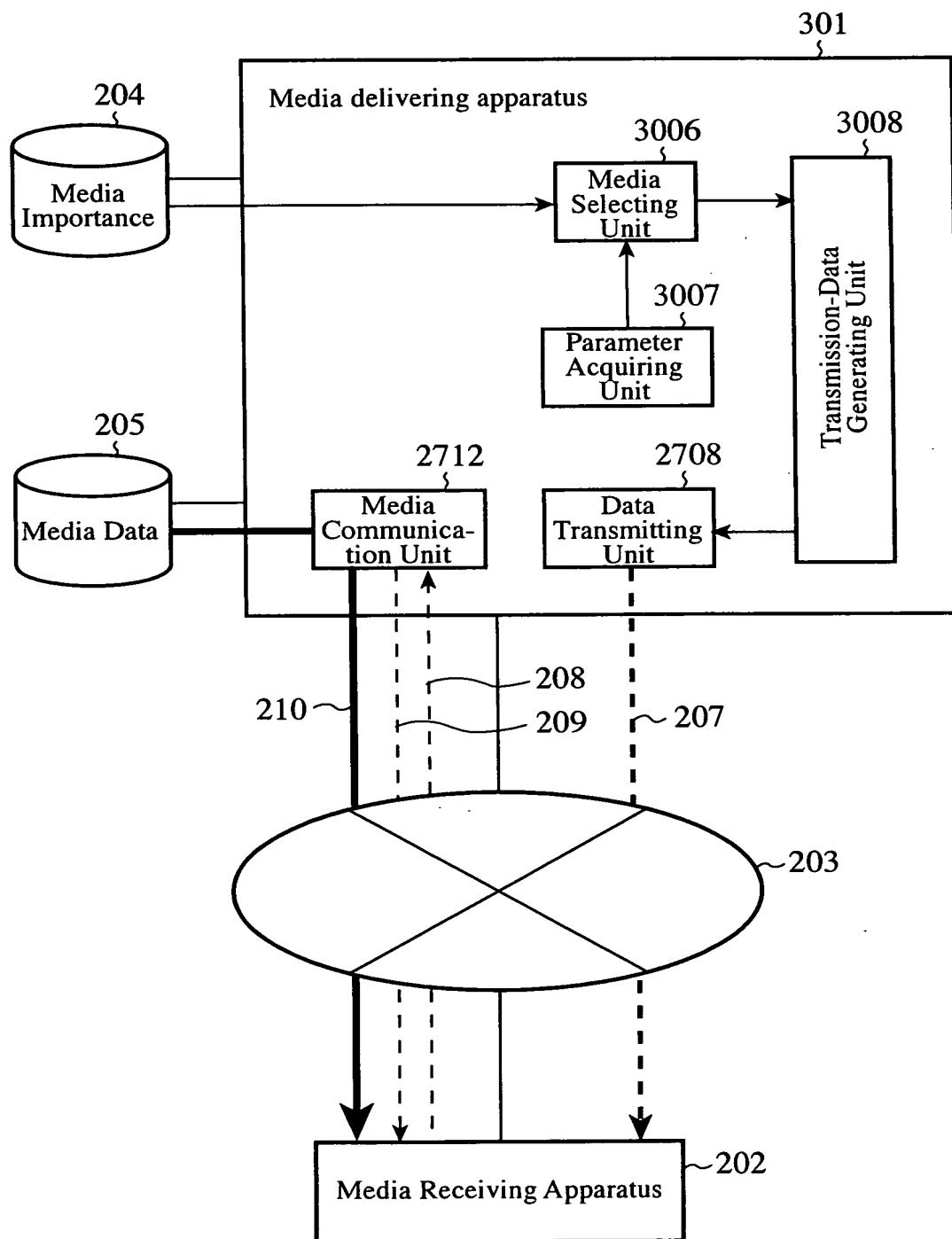
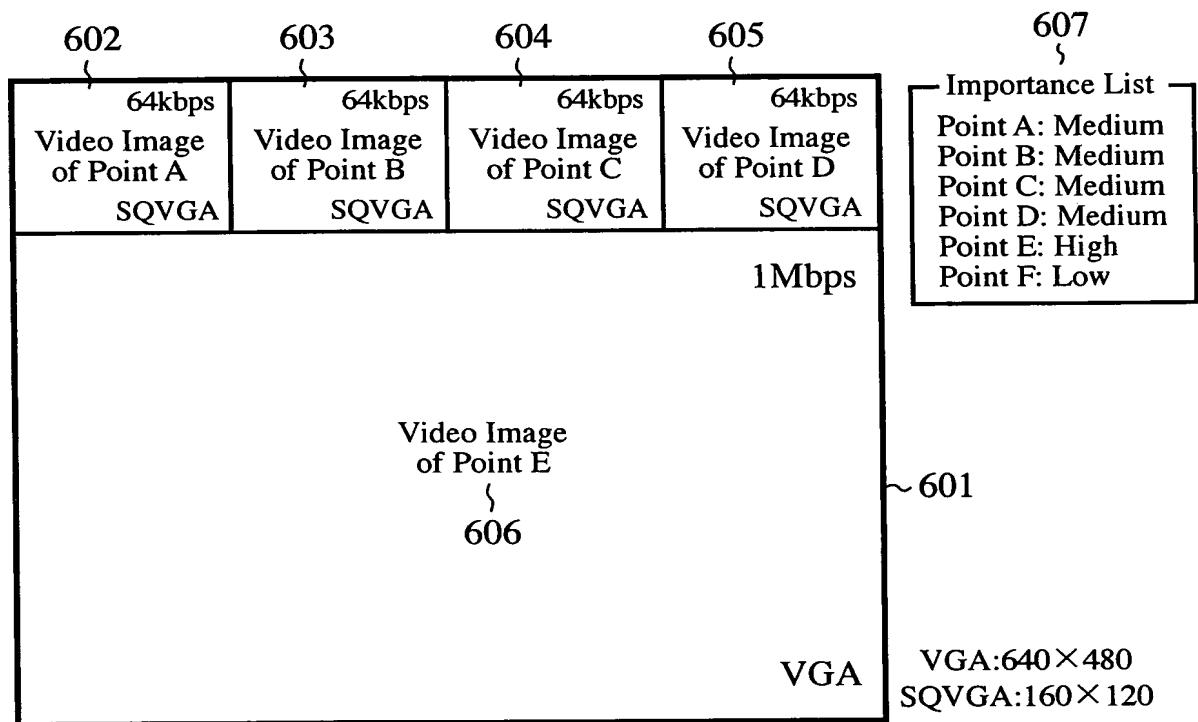


FIG.9



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FIG.10



Communication Band of Network : 1.5Mbps

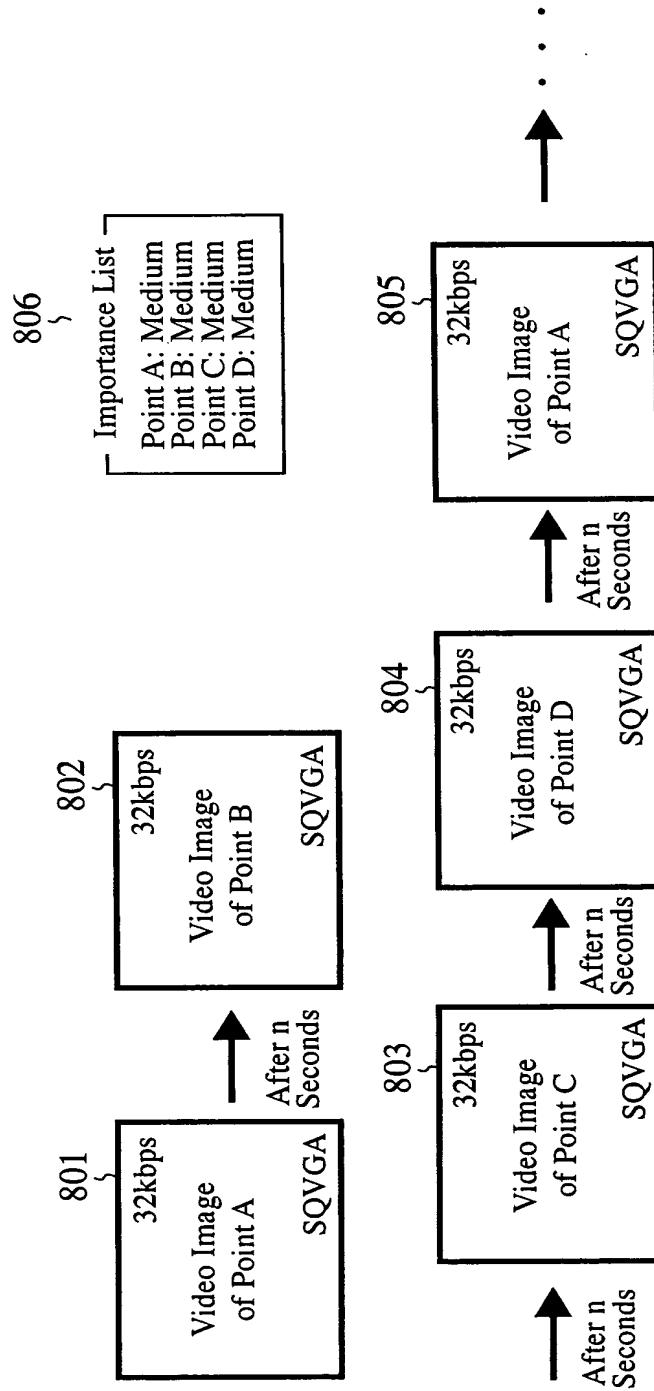
Display Resolution of Media Receiving Apparatus : XGA(1024×768)

FIG.11

1201

```
<smil>
  <head>
    <layout>
      <root-layout width="640" height="600"/>
      <region id="sumnnail1" left="0" top="0" width="160" height="120" />
      <region id="sumnnail2" left="160" top="0" width="160" height="120" />
      <region id="sumnnail3" left="320" top="0" width="160" height="120" />
      <region id="sumnnail4" left="480" top="0" width="160" height="120" />
      <region id="important" left="0" top="120" width="640" height="480" />
    </layout>
  </head>
  <body>
    <par>
      <video region="sumnnail1" src="rtsp://server/A.mp4" />
      <video region="sumnnail2" src="rtsp://server/B.mp4" />
      <video region="sumnnail3" src="rtsp://server/C.mp4" />
      <video region="sumnnail4" src="rtsp://server/D.mp4" />
      <video region="important" src="rtsp://server/E.mp4" />
    </par>
  </body>
</smil>
```

FIG. 12



Communication Band of Network : 32kbps
Display Resolution of Media Receiving Apparatus : SQVGA(160×120)

13/30

FIG.13

1401

```
<smil>
  <head>
    <layout>
      <root-layout width="160" height="120"/>
      <region id="one" left="0" top="0" width="160" height="120" />
    </layout>
  </head>
  <body>
    <seq repeat="indefinite" >
      1402   <video region="one" src="rtsp://server/A.mp4" dur="30s" />
      1403   <video region="one" src="rtsp://server/B.mp4" dur="30s" />
      <video region="one" src="rtsp://server/C.mp4" dur="30s" />
      <video region="one" src="rtsp://server/D.mp4" dur="30s" />
    </seq>
  </body>
</smil>
```

FIG.14

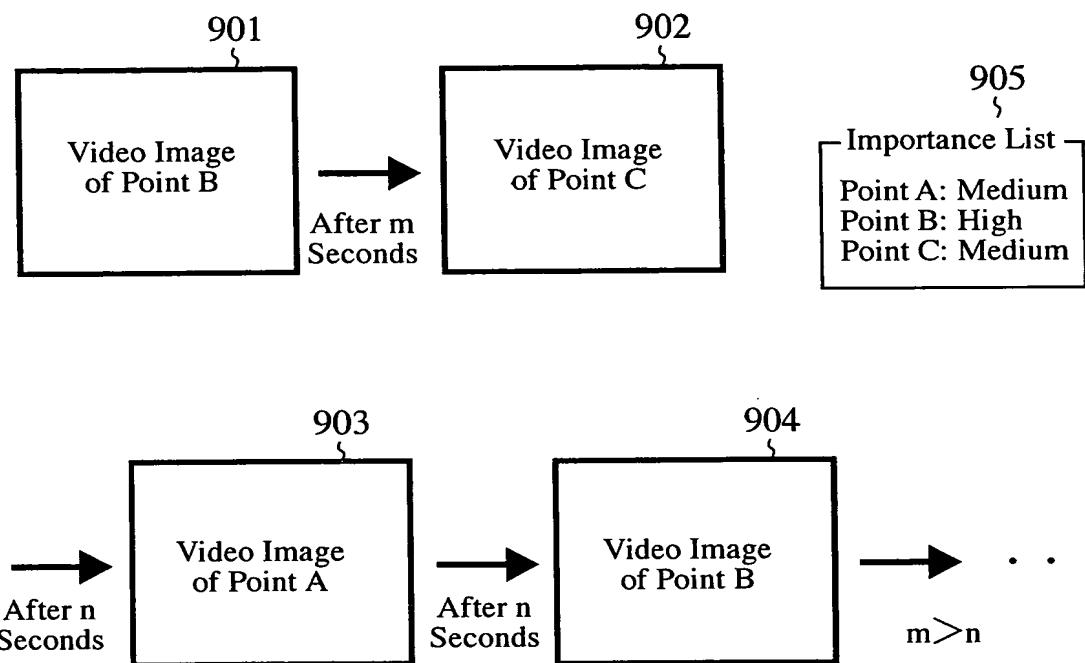


FIG.15

The diagram shows a large rectangular box containing an SMIL XML code. The code defines a sequence of video elements to be repeated indefinitely. It includes a head section with a layout defining a root region of width 160 and height 120, and a body section containing a sequence of three video tags. Each video tag has a region attribute set to "one" and a src attribute pointing to an RTSP URL for a .mp4 file. The duration for each video is specified in the dur attribute.

```
<smil>
  <head>
    <layout>
      <root-layout width="160" height="120"/>
      <region id="one" left="0" top="0" width="160" height="120" />
    </layout>
  </head>
  <body>
    <seq repeat="indefinite" >
      <video region="one" src="rtsp://server/A.mp4" dur="30s" />
      <video region="one" src="rtsp://server/B.mp4" dur="60s" />
      <video region="one" src="rtsp://server/C.mp4" dur="30s" />
    </seq>
  </body>
</smil>
```

FIG. 16

```

<smil>
  <head>
    <switch>
      1502  <layout systemBitrate="1024" >
        <root-layout width="640" height="480"/>
        <region id="topleft" left="0" top="0" width="320" height="240" />
        <region id="topright" left="320" top="0" width="320" height="240" />
        <region id="bottomleft" left="0" top="240" width="240" height="320" />
        <region id="bottomright" left="320" top="240" width="320" height="240" />
      </layout>
      <layout>
        <root-layout width="160" height="120" />
        <region id="one" left="0" top="0" width="160" height="120" />
      </layout>
    </switch>
  </head>
  <body>
    <switch>
      1503  <par systemBitrate="1024" >
        <video region="topleft" src="rtsp://server/A.mp4" />
        <video region="topright" src="rtsp://server/B.mp4" />
        <video region="bottomleft" src="rtsp://server/C.mp4" />
        <video region="bottomright" src="rtsp://server/D.mp4" />
      </par>
      <seq repeat="indefinite" >
        <video region="one" src="rtsp://server/A.mp4" dur="30s" />
        <video region="one" src="rtsp://server/B.mp4" dur="30s" />
        <video region="one" src="rtsp://server/C.mp4" dur="30s" />
        <video region="one" src="rtsp://server/D.mp4" dur="30s" />
      </seq>
    </switch>
  </body>
</smil>

```

~1501

1502

1503

1504

FIG.17

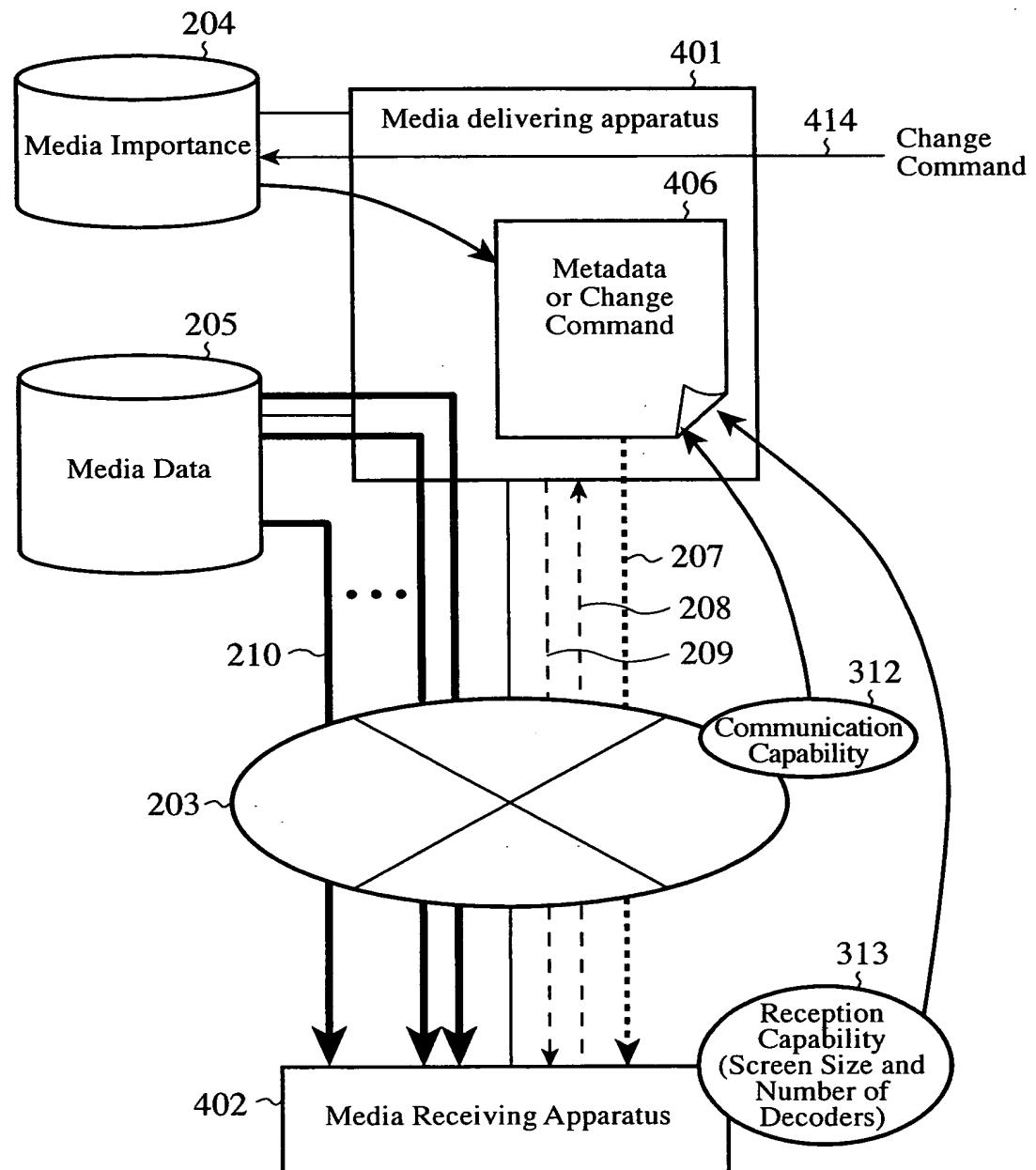


FIG.18

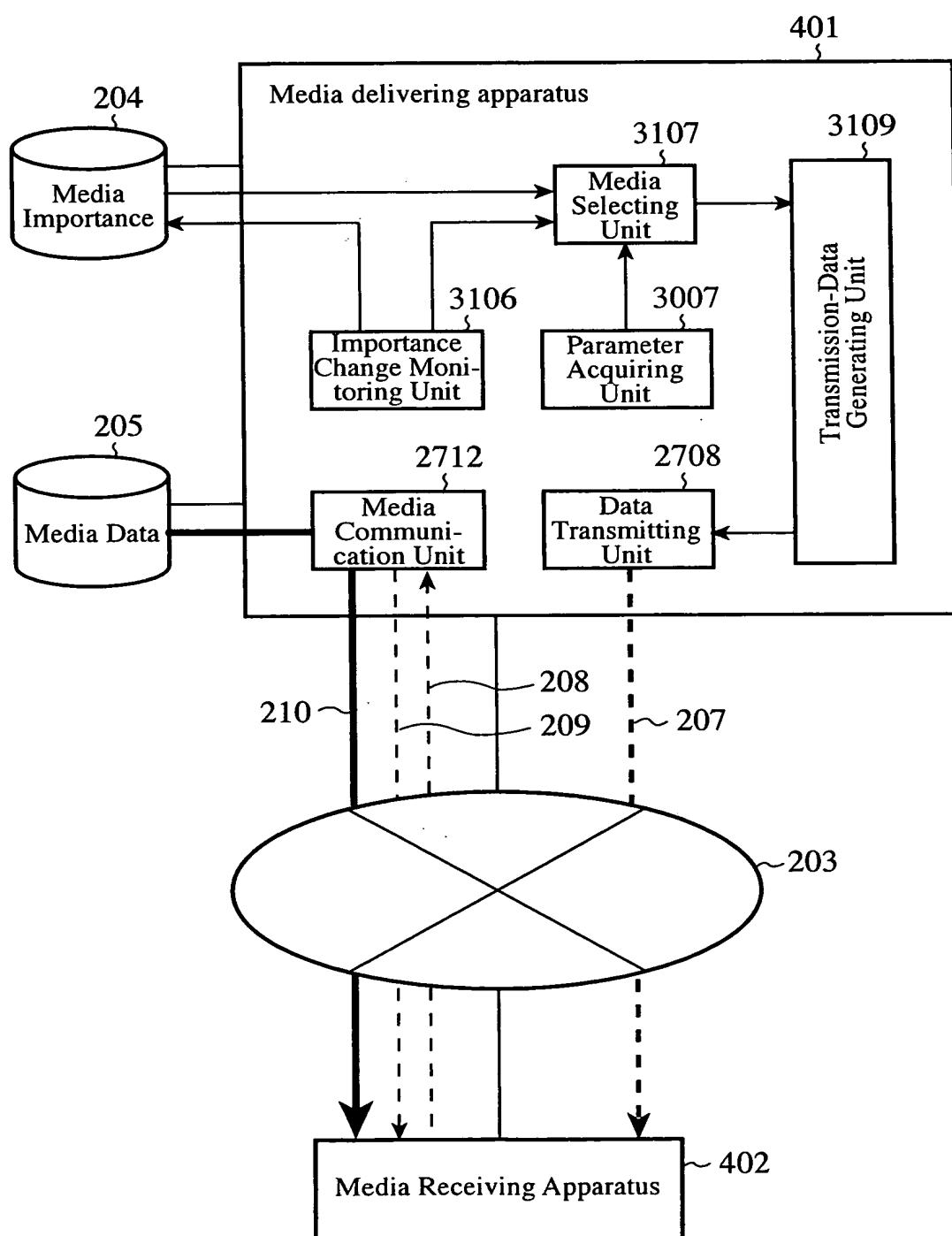
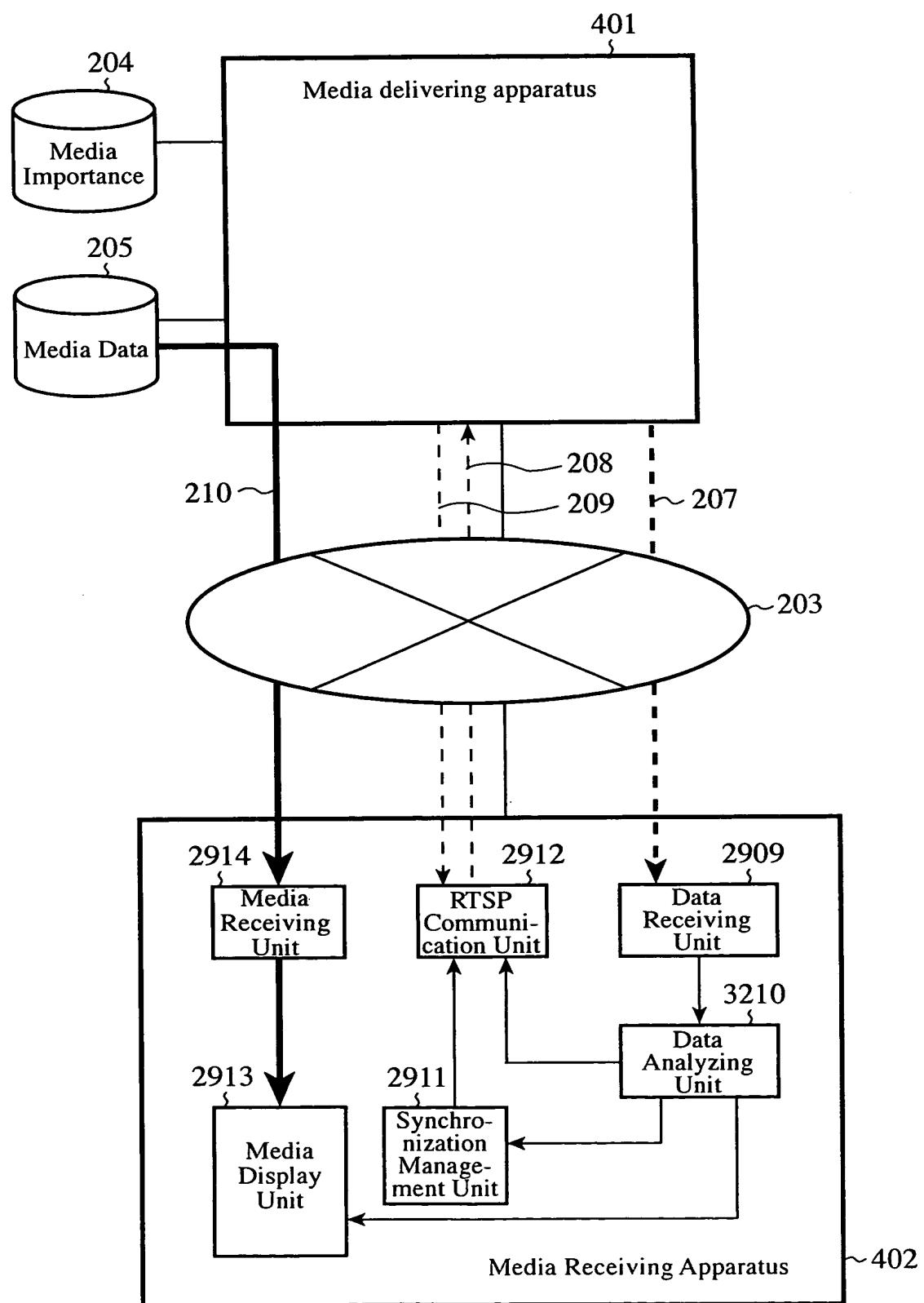


FIG.19



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FIG.20

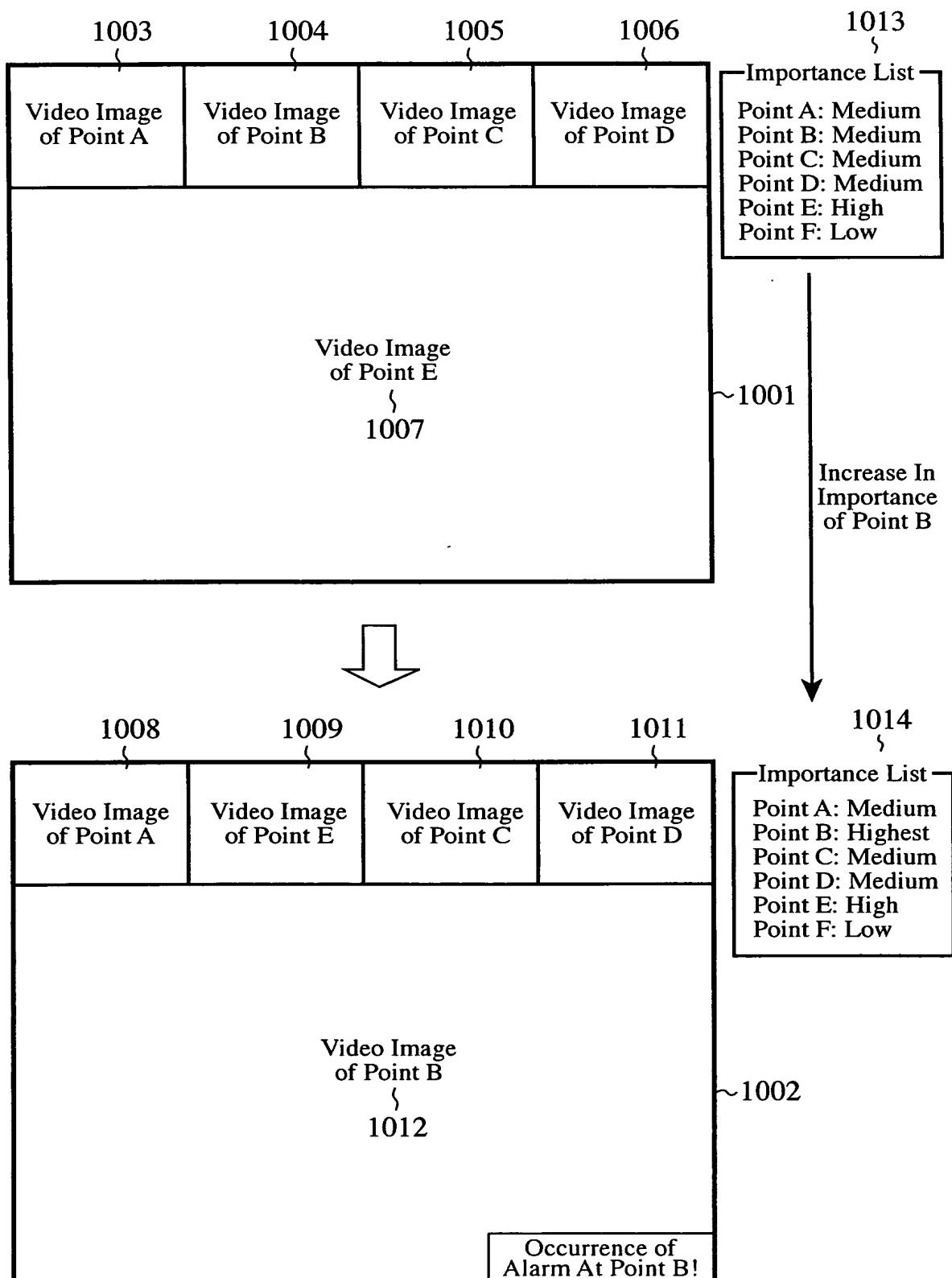


FIG.21

1701

Metadata

```

<smil>
<head>
  <layout>
    <root-layout width="640" height="600"/>
    <region id="sumnnail1" left="0" top="0" width="160" height="120" />
    <region id="sumnnail2" left="160" top="0" width="160" height="120" />
    <region id="sumnnail3" left="320" top="0" width="160" height="120" />
    <region id="sumnnail4" left="480" top="0" width="160" height="120" />
    <region id="important" left="0" top="120" width="640" height="480" />
  </layout>
</head>
<body>
  <par>
    <video region="sumnnail1" src="rtsp://server/A.mp4" />
    <video region="sumnnail2" src="rtsp://server/B.mp4" />
    <video region="sumnnail3" src="rtsp://server/C.mp4" />
    <video region="sumnnail4" src="rtsp://server/D.mp4" />
    <video region="important" src="rtsp://server/E.mp4" />
  </par>
</body>
</smil>

```

1703

Importance List

Point A: Medium
 Point B: Medium
 Point C: Medium
 Point D: Medium
 Point E: High
 Point F: Low



1702

Metadata

```

<smil>
<head>
  <layout>
    <root-layout width="640" height="600"/>
    <region id="sumnnail1" left="0" top="0" width="160" height="120" />
    <region id="sumnnail2" left="160" top="0" width="160" height="120" />
    <region id="sumnnail3" left="320" top="0" width="160" height="120" />
    <region id="sumnnail4" left="480" top="0" width="160" height="120" />
    <region id="important" left="0" top="120" width="640" height="480" />
  </layout>
</head>
<body>
  <par>
    <video region="sumnnail1" src="rtsp://server/A.mp4" />
    <video region="sumnnail2" src="rtsp://server/E.mp4" />
    <video region="sumnnail3" src="rtsp://server/C.mp4" />
    <video region="sumnnail4" src="rtsp://server/D.mp4" />
    <video region="important" src="rtsp://server/B.mp4" />
  </par>
</body>
</smil>

```

1704

Importance List

Point A: Medium
 Point B: Highest
 Point C: Medium
 Point D: Medium
 Point E: High
 Point F: Low

Increase In
Importance
of Point B

FIG.22

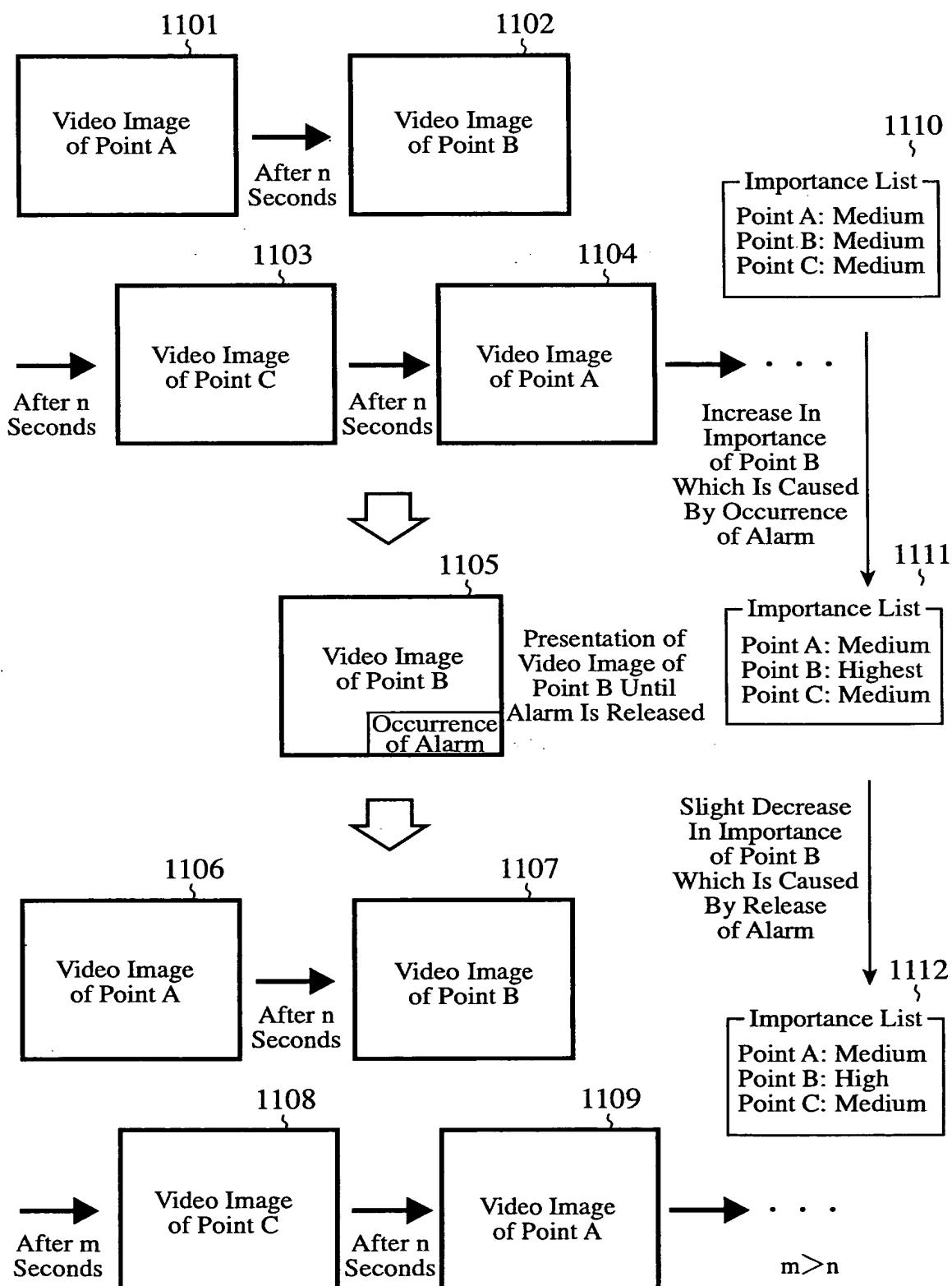


FIG.23

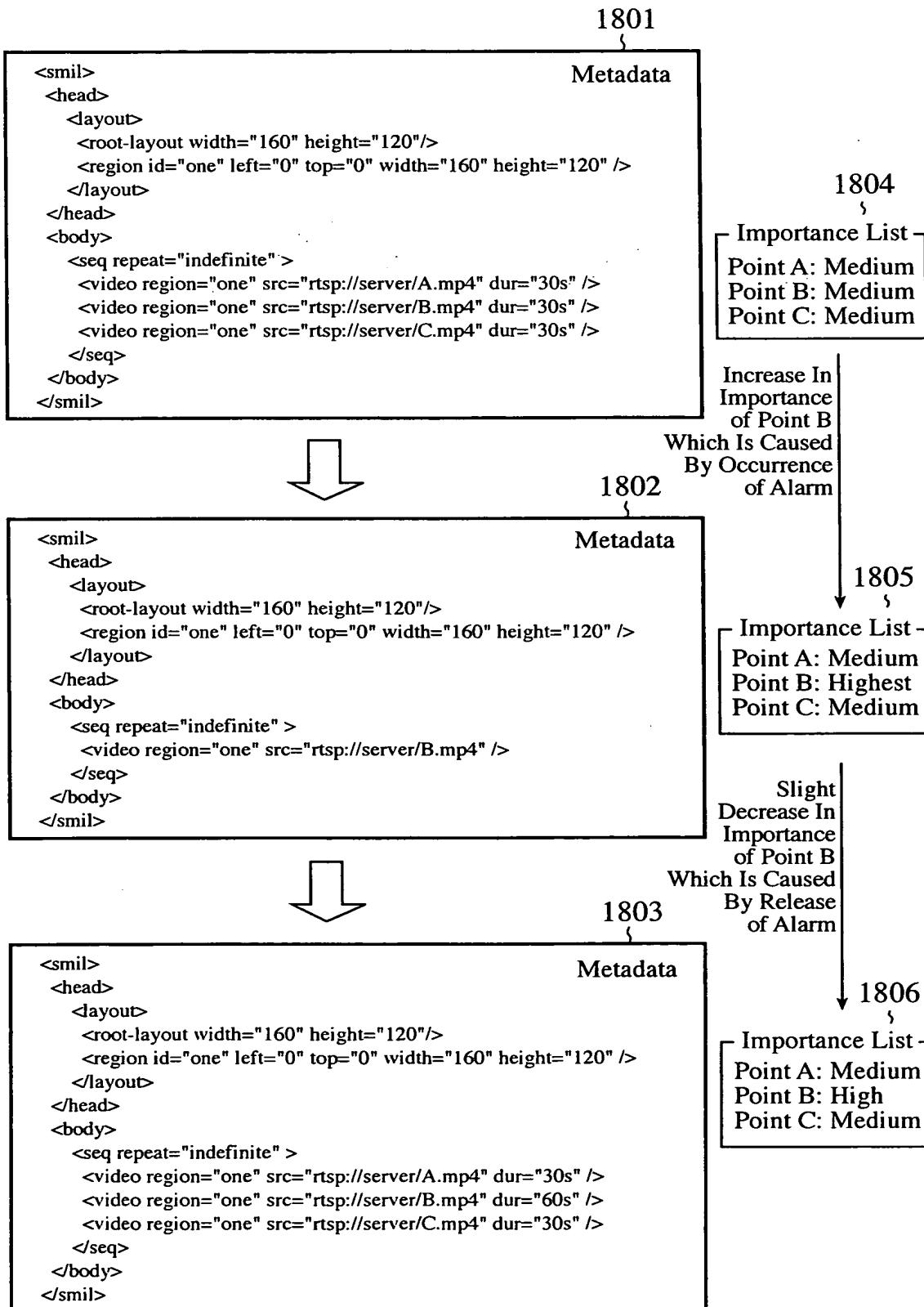


FIG.24
Format of Change Command

2401

```

add_elem {Absolute Node; <Additional Element, Attribute> ; Execution Time}
add_attr {Absolute Node; Additional Attribute ; Execution Time}
replace_elem {Absolute Node; <Replacement Element, Attribute> ; Execution Time}
replace_attr {Absolute Node; Replacement Attribute ; Execution Time}
delete_elem {Absolute Node; <Deletion Element> ; Execution Time}
delete_attr {Absolute Node; Deletion Attribute ; Execution Time}

```

Absolute Node
Correspondence
Table

2402

```

<smil>
<head>
<layout>
<root-layout width="640" height="480"/>
<region id="topleft" left="0" top="0" width="320" height="240"/>
<region id="topright" left="320" top="0" width="320" height="240"/>
<region id="bottomleft" left="0" top="240" width="240" height="320"/>
<region id="bottomright" left="320" top="240" width="240" height="320"/>
</layout>
</head>
<body>
<par dur="600s">
<video region="topleft" src="rtsp://server/A.mp4" begin="8:30"/>
<video region="topright" src="rtsp://server/B.mp4" begin="14:10"/>
<video region="bottomleft" src="rtsp://server/C.mp4" begin="12:30"/>
<video region="bottomright" src="rtsp://server/D.mp4" begin="10:20"/>
</par>
</body>
</smil>

```

2403

1	1,1	1,1,1	1,1,1,1	1,1,1,2	1,1,1,3	1,1,1,4	1,1,1,5
---	-----	-------	---------	---------	---------	---------	---------

FIG.25

```
replace_attr {1,2,1,2;src="rtsp://server/E.mp4"}  
replace_attr {1,2,1,5;src="rtsp://server/B.mp4"}
```

~ 1901

FIG.26

```
delete_elem {1,2,1,3}  
delete_elem {1,2,1,1}
```

~ 2001

2002

```
add_elem{1,2,1,1;<video region="one"src="rtsp://server/A.mp4"dur="30s"/>}  
add_attr{1,2,1,2;dur="60s"}  
add_elem{1,2,1,3;<video region="one"src="rtsp://server/C.mp4"dur="30s"/>}
```

FIG.27

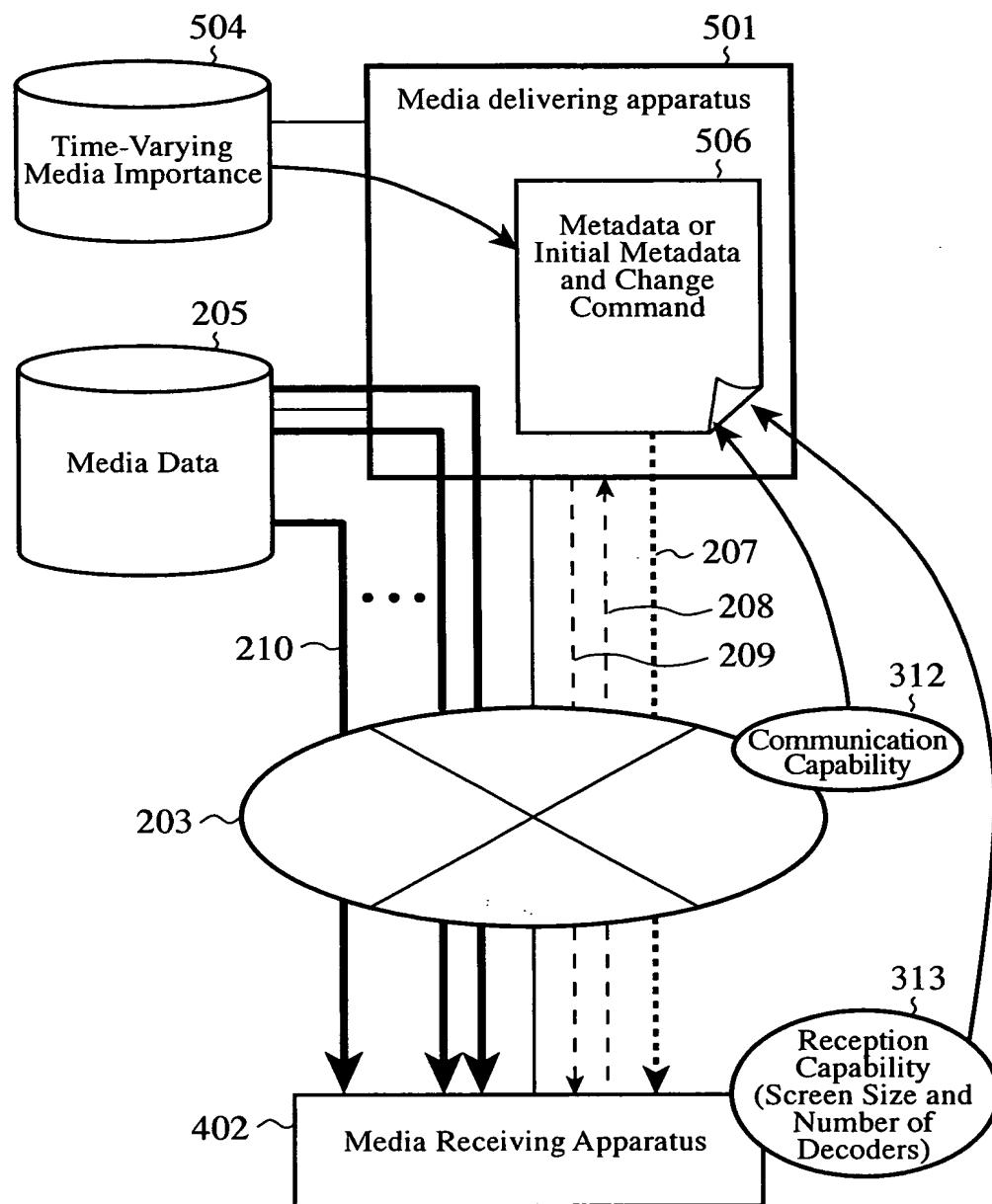


FIG.28

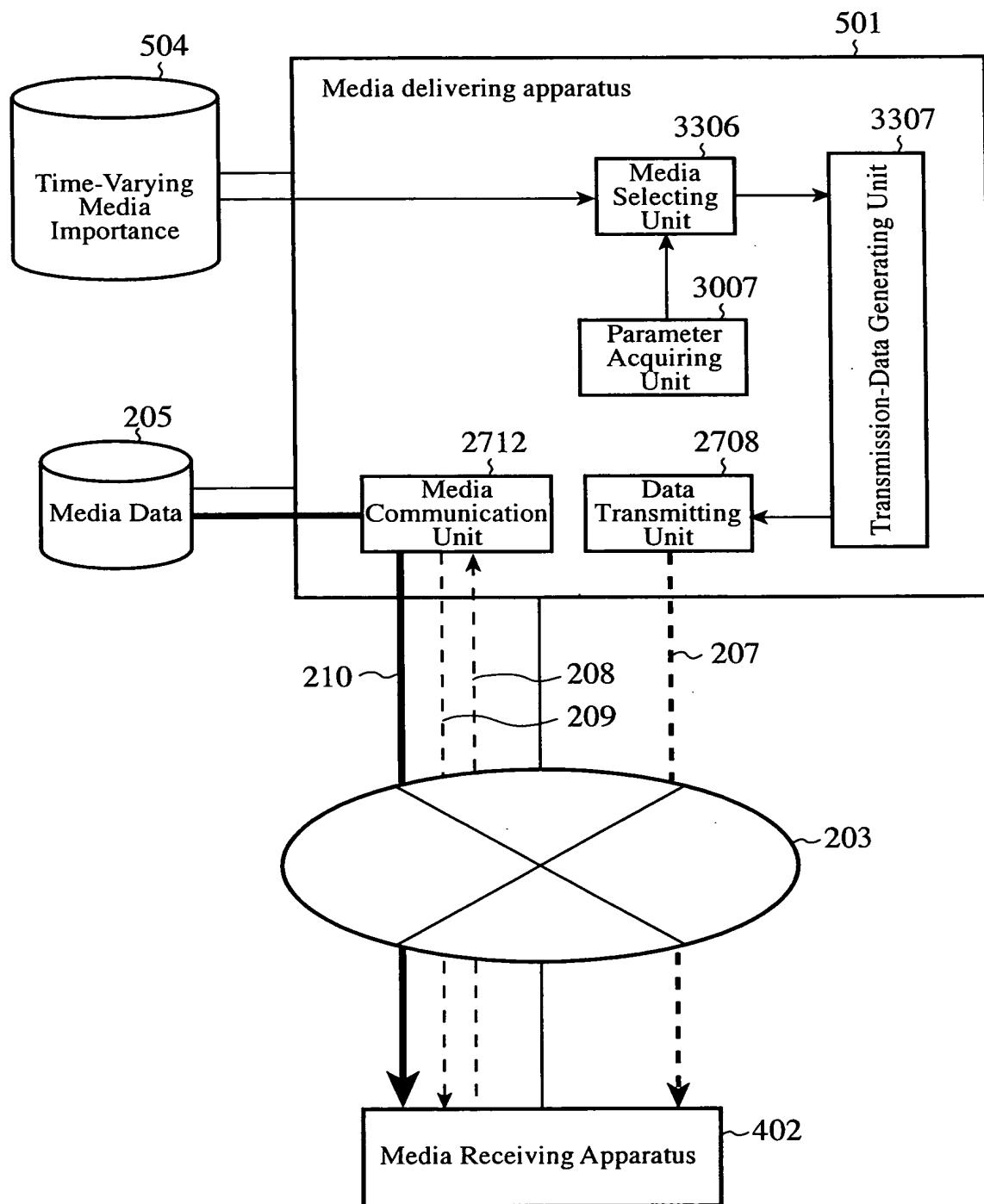


FIG.29

```

<smil>
  <head>
    <layout>
      <root-layout width="640" height="600"/>
      <region id="summail1" left="0" top="0" width="160" height="120"/>
      <region id="summail2" left="160" top="0" width="160" height="120"/>
      <region id="summail3" left="320" top="0" width="160" height="120"/>
      <region id="summail4" left="480" top="0" width="160" height="120"/>
      <region id="important" left="0" top="120" width="640" height="480"/>
    </layout>
  </head>
  <body>
    <seq>
      <par dur="600s">
        <video region="summail1" src="rtsp://server/A.mp4" begin="14:00"/>
        <video region="summail2" src="rtsp://server/B.mp4" begin="14:00"/>
        <video region="summail3" src="rtsp://server/C.mp4" begin="14:00"/>
        <video region="summail4" src="rtsp://server/D.mp4" begin="14:00"/>
        <video region="important" src="rtsp://server/E.mp4" begin="14:00"/>
      </par>
      <par dur="1200s">
        <video region="summail1" src="rtsp://server/A.mp4" begin="14:10"/>
        <video region="summail2" src="rtsp://server/E.mp4" begin="14:10"/>
        <video region="summail3" src="rtsp://server/C.mp4" begin="14:10"/>
        <video region="summail4" src="rtsp://server/D.mp4" begin="14:10"/>
        <video region="important" src="rtsp://server/B.mp4" begin="14:10"/>
      </par>
    </seq>
  </body>
</smil>

```

2104

Importance List —

(At 14:00)

Point A: Medium
Point B: Medium
Point C: Medium
Point D: Medium
Point E: High
Point F: Low

2105

Importance List —

(At 14:10)

Point A: Medium
Point B: Highest
Point C: Medium
Point D: Medium
Point E: High
Point F: Low

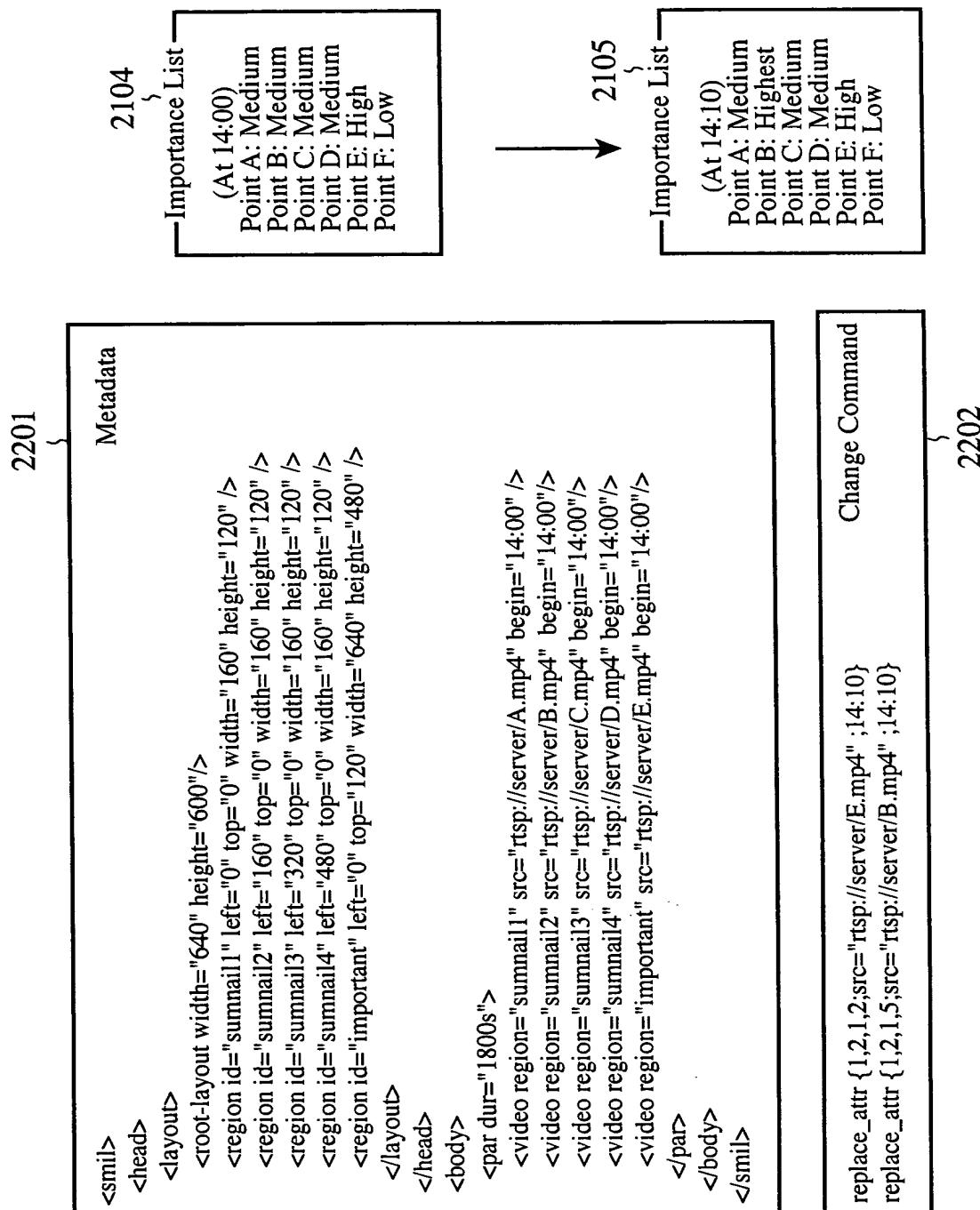
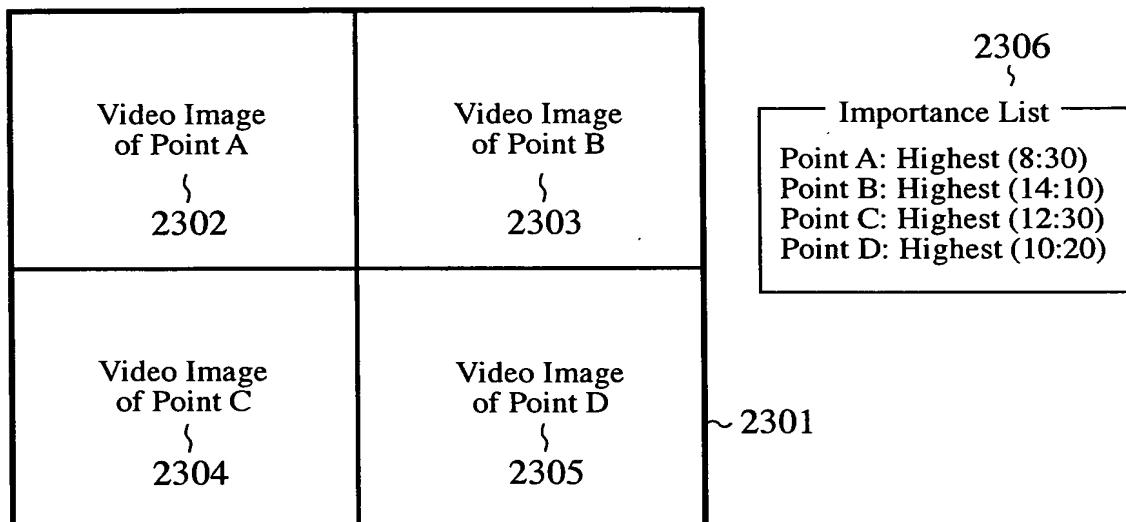


FIG.30

FIG.31



```

<smil>
<head>
  <layout>
    <root-layout width="640" height="480"/>
    <region id="topleft" left="0" top="0" width="320" height="240" />
    <region id="topright" left="320" top="0" width="320" height="240" />
    <region id="bottomleft" left="0" top="240" width="320" height="240" />
    <region id="bottomright" left="320" top="240" width="320" height="240" />
  </layout>
</head>
<body>
  <par dur="600s">
    <video region="topleft" src="rtsp://server/A.mp4" begin="8:30"/>
    <video region="topright" src="rtsp://server/B.mp4" begin="14:10"/>
    <video region="bottomleft" src="rtsp://server/C.mp4" begin="12:30"/>
    <video region="bottomright" src="rtsp://server/D.mp4" begin="10:20"/>
  </par>
</body>
</smil>

```

FIG.32

